The 5 Million Lives Campaign: Rapid Response Teams

Institute for Healthcare Improvement

What Is a Rapid Response Team?

- A Rapid Response Team (RRT) is a team of clinicians who bring critical care expertise to the patient bedside (or wherever it is needed).

- The goal: To prevent deaths in patients who are failing outside intensive care settings.

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Why Rapid Response Teams?

- People die unnecessarily every single day in our hospitals. The goal is to respond to a “spark” before it becomes a “forest fire.”

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Mortality Diagnostic 2 x 2 matrix

Comfort Care Only?	ICU Admission ? Yes	ICU Admission ? No
Yes	Box #1	Box #2
No	Box #3	Box #4

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Mortality Diagnostic: Aggregate Results for 64 US Hospitals

	ICU Admission	No ICU Admission
Comfort Care	175/5535 3% (0-44%)	773/5535 14% (0- 65%)
Non Comfort Care	1936/5535 35% (7-72%)	2661/5535 48% (7-76%)

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Three fundamental problems

- Failures in planning
  - Includes assessments, treatments, goals
- Failure to communicate
  - Patient-to-staff, staff-to-staff, staff-to-physician, etc.
- Failure to recognize a problem

These three problems often lead to failure to rescue.

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Clinical Instability Prior to Arrest

- 70% (45/64) of patients show evidence of respiratory deterioration within 8 hours of arrest

  Schein. *Chest*. 1990;98:1388-1392.

- **Majority of in-hospital cardiac arrests were potentially avoidable and 100% of these received inadequate prior treatment**. (Hodgetts TJ, Kenward G, Vlackonikolis I. Et al. Incidence, location and reasons for avoidable in-hospital cardiac arrest in a district general hospital. Resuscitation. 2002;54(2):115-123.

- 66% (99/150) of patients show abnormal signs and symptoms within 6 hours of arrest and MD notified in 25% of cases (25/99)
- Franklin. *Crit Care Med*. 1994;22:224-247.

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Clinical Instability Prior to Arrest

Warning signs within 6 hours of event:

- MAP <70 or >130 mmHg
- Heart rate <45 or >125 per minute
- Respiratory rate <10 or >30 per min
- Chest pain
- Altered mental status

Franklin. *Crit Care Med*. 1994;22:224-247.

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What Difference can a RRT make?

For each 17 MET calls, one less cardiac arrest occurs

- Jones, Bellamo, et a. Critical Care 2005:9 R808-815

50% reduction in non-ICU arrests

- [Buist MD, Moore GE, Bernard SA, Waxman BP, Anderson JN, Nguyen TV.. BMJ. 2002;324:387-390.]

Reduced post-operative emergency ICU transfers (58%) and deaths (37%)

- [Bellomo R, Goldsmith D, Uchino S, et al. Crit Care Med. 2004;32:916-921.]

Reduction in arrest prior to ICU transfer (4% vs. 30%)

- [Goldhill DR, Worthington L, Mulcahy A, Tarling M, Sumner A. Anesthesia. 1999;54(9):853-860.]

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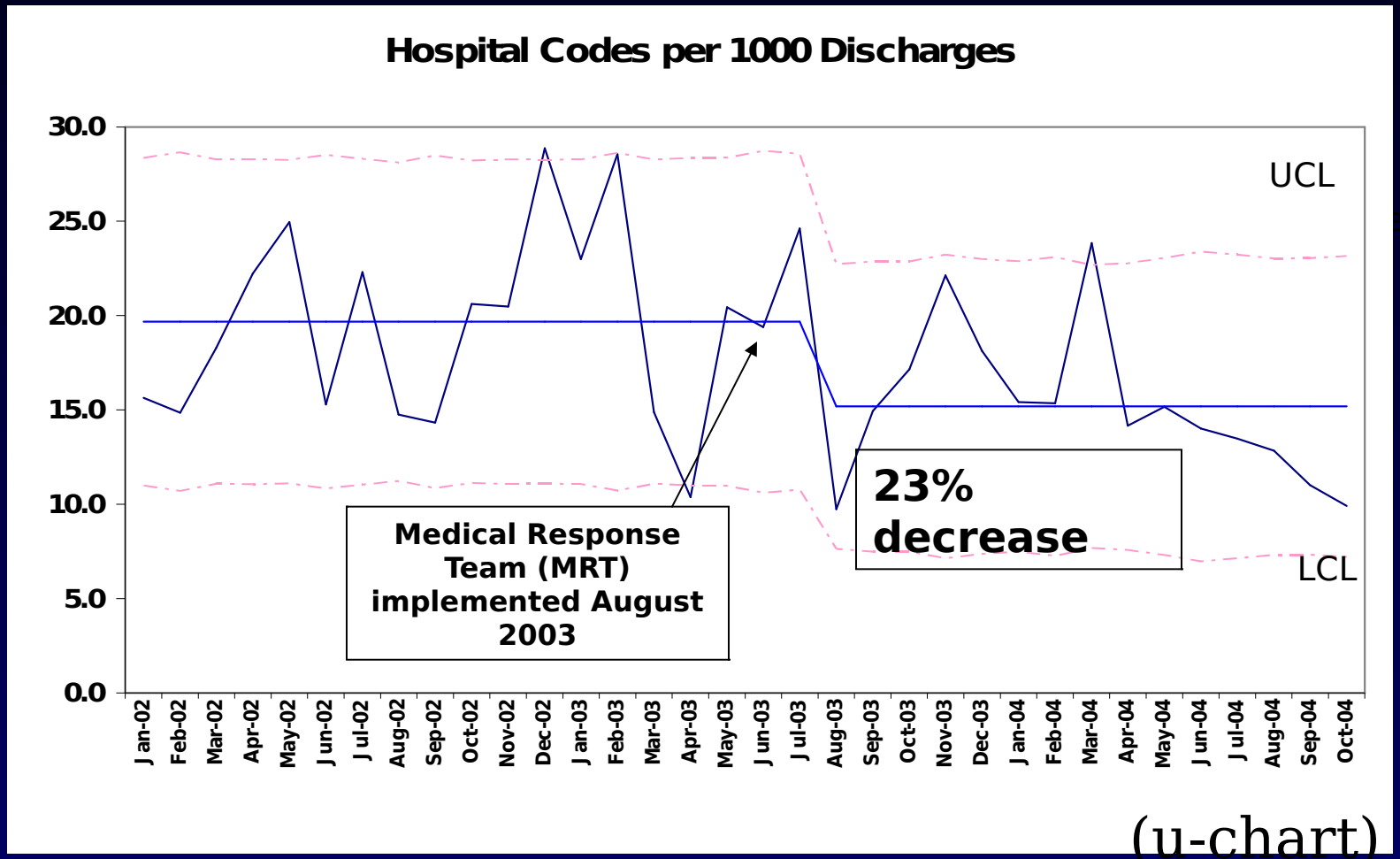
Codes per 1000 Discharg



(u-chart)

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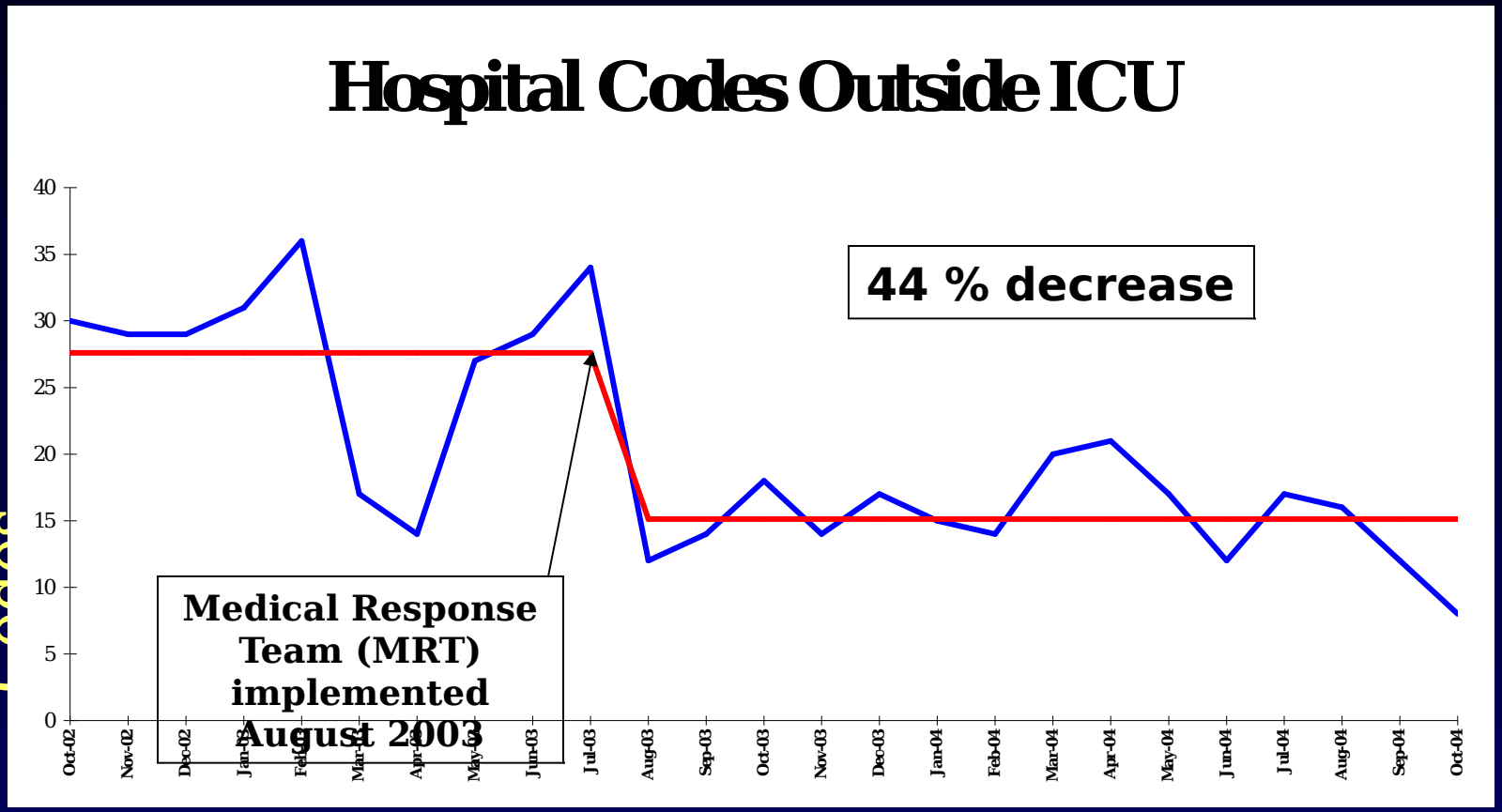
Hospital Codes Outside the ICU



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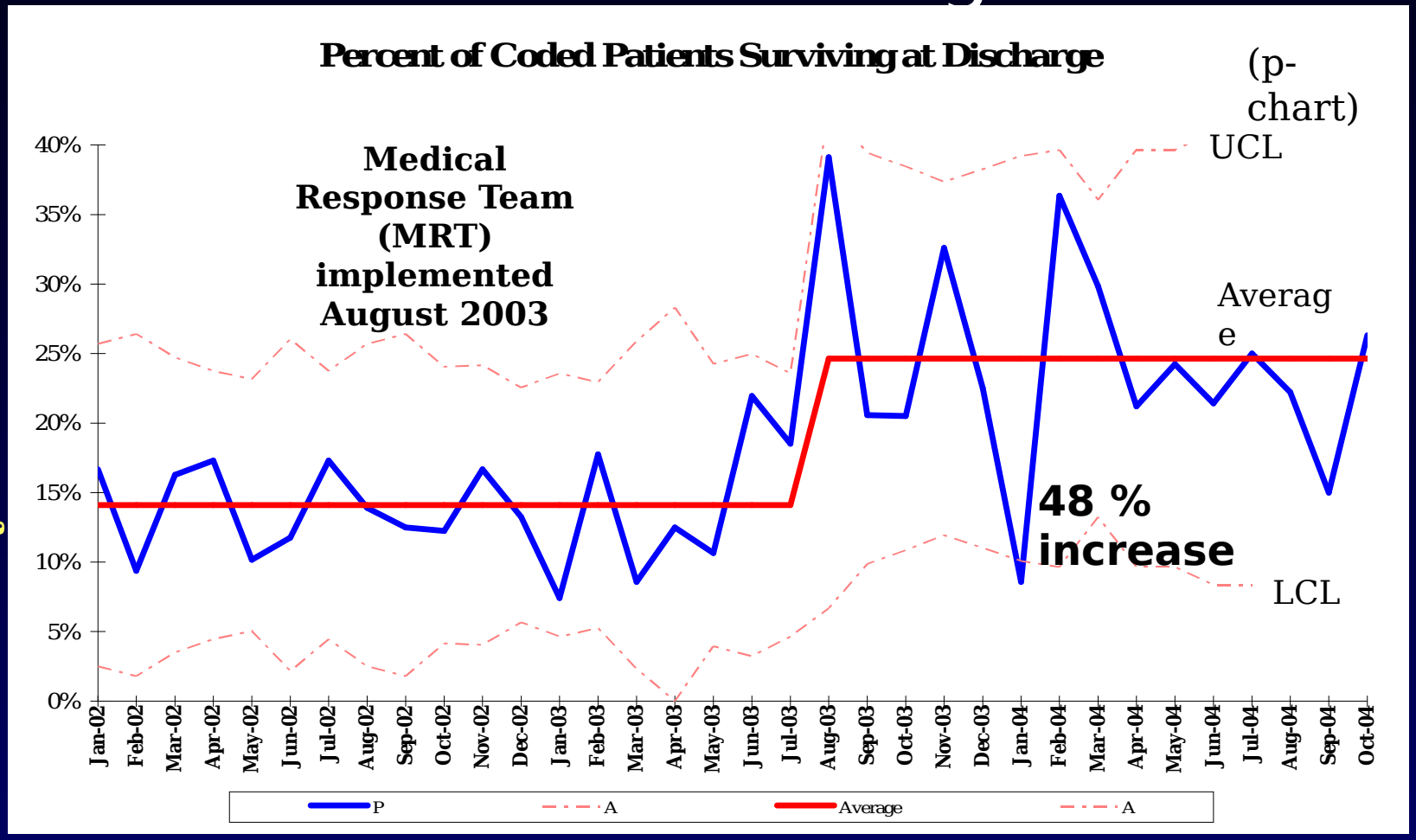
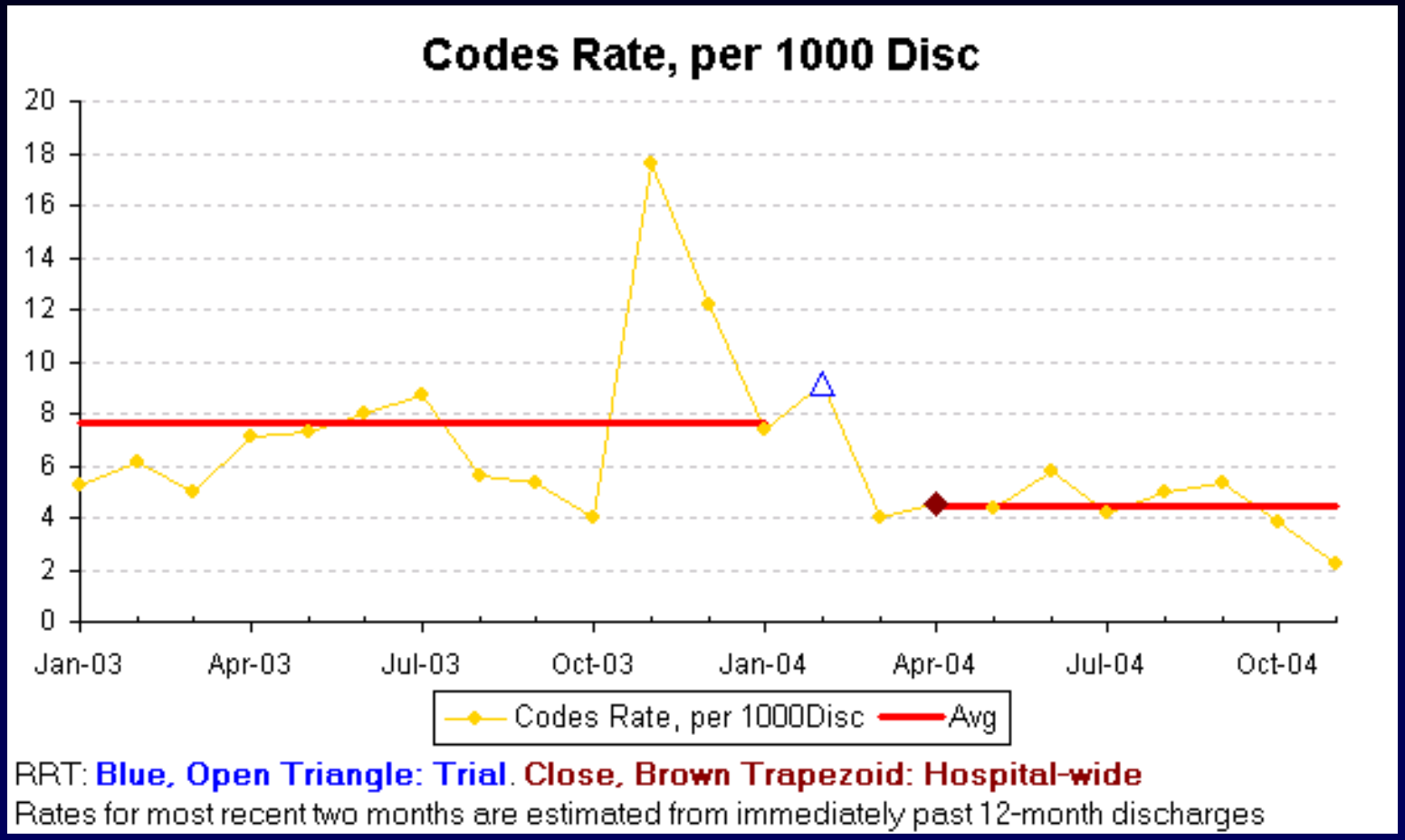
Percent of Coded Patients Surviving at Discharge



Codes per 1000 Discharges



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What Is the Role of the RRT?

- Assess
- Stabilize
- Assist with communication
- Educate and support
- Assist with transfer, if necessary

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Rapid Response Team Considerations

- Engage senior leadership support
- Determine the best structure for the team
- Provide education and training
- Establish criteria and mechanism for calling
- Establish structured documentation tool
- Establish feedback mechanisms
- Measure effectiveness

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Engage Leadership Support

- Executive/Administrative
- Physician
- Clear and wide communication strategy

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Determine the Team Structure

- Considerations
  - Available
  - Accessible
  - Able
- Multiple Models
  - ICU RN and Respiratory Therapist (RT)
  - ICU RN, RT, Intensivist, Resident
  - ICU RN, RT, Intensivist or Hospitalist
  - RN, House Supervisor, RT

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Provide Education and Training

- Administrative Staff
  - Benefits
  - Myths
  - Current review of code events
- Medical Staff
  - General information
  - Benefits
  - Myths

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Provide Education and Training

- RRT Members
  - ACLS or advanced critical care training
  - SBAR

  -Appropriate expectations
    - Importance of responding in a timely manner
    - Importance of providing non-judgmental, non-punitive feedback to call initiator

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Provide Education and Training

- Nursing Staff
  - Criteria for calling
  - Notification process
  - Communication and teamwork skills
    - SBAR, Assertiveness / Critical Language
  - Appropriate expectations
    - Importance of calling even when unsure
    - Non-judgmental, non-punitive nature of the RRT
    - Role as a member of the team

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Establish Criteria for Calling the RRT

- Staff member is worried about the patient
- Acute change in heart rate <40 or >130 bpm
- Acute change in systolic BP <90 mmHg
- Acute change in RR <8 or >28 per min
- Acute change in saturation <90% despite O_2
- Acute change in conscious state

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Mechanism for Calling the RRT

- Beeper
- Overhead page
- Combination beeper and overhead page
- “Companion Phone” (Intra-hospital phone)
- Voice Activated Communication Systems

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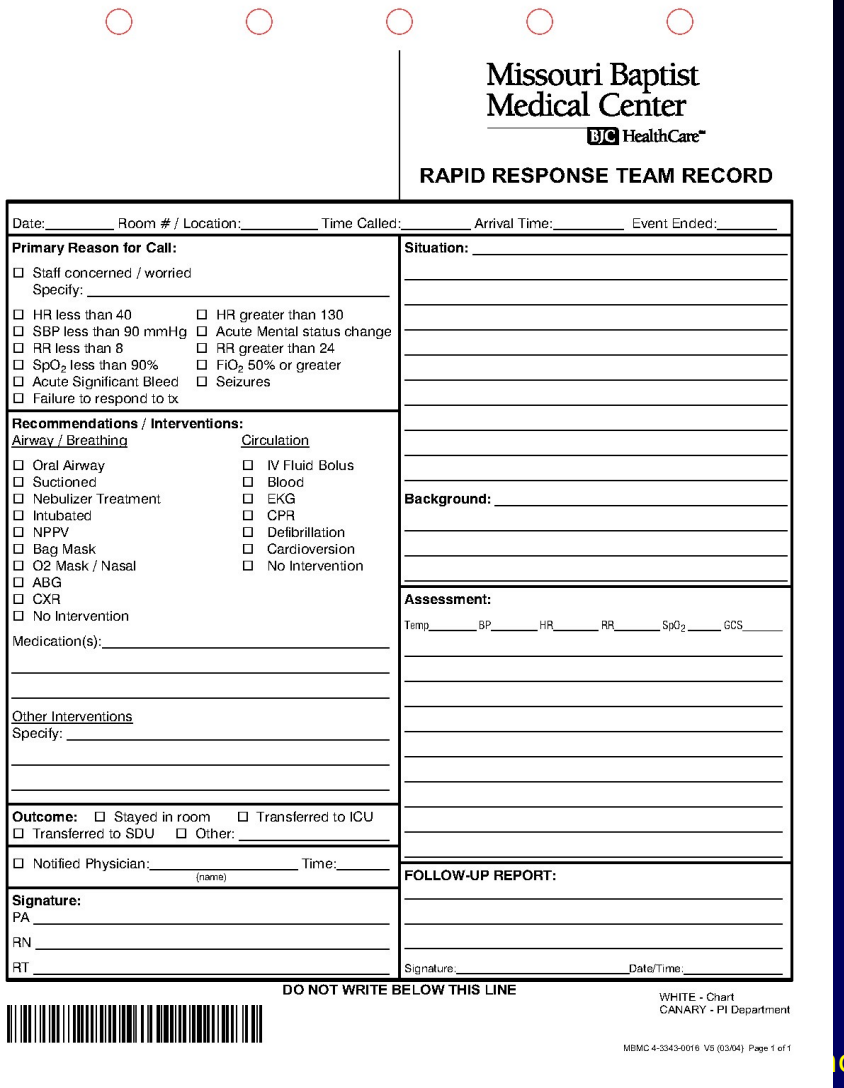
Communication and Documentation

- Embed SBAR
- Record the interventions and reasons for call
- Use data to drive educational programs
- Develop process to retrieve information after the event



Missouri Baptist Medical Center
BJC HealthCare

RAPID RESPONSE TEAM RECORD

Date:_____ Room # / Location:_____ Time Called:_____ Arrival Time:_____ Event Ended:_____

Primary Reason for Call:

- ☐ Staff concerned / worried
  Specify: _____
- ☐ HR less than 40
- ☐ SBP less than 90 mmHg
- ☐ RR less than 8
- ☐ SpO_2 less than 90%
- ☐ Acute Significant Bleed
- ☐ Failure to respond to tx
- ☐ HR greater than 130
- ☐ Acute Mental status change
- ☐ RR greater than 24
- ☐ FiO_2 50% or greater
- ☐ Seizures

Recommendations / Interventions:

Airway / Breathing
- ☐ Oral Airway
- ☐ Suctioned
- ☐ Nebulizer Treatment
- ☐ Intubated
- ☐ NPPV
- ☐ Bag Mask
- ☐ O2 Mask / Nasal
- ☐ ABG
- ☐ CXR
- ☐ No Intervention

Circulation
- ☐ IV Fluid Bolus
- ☐ Blood
- ☐ EKG
- ☐ CPR
- ☐ Defibrillation
- ☐ Cardioversion
- ☐ No Intervention

Medication(s):_____

Other Interventions
Specify: _____

Outcome: ☐ Stayed in room ☐ Transferred to ICU ☐ Transferred to SDU ☐ Other: _____

☐ Notified Physician:_____ (name) Time:_____

Signature:
PA _____
RN _____
RT _____

Situation: _____

Background: _____

Assessment:
Temp_____ BP_____ HR_____ RR_____ SpO_2_____ GCS_____

FOLLOW-UP REPORT:

Signature:_____ Date/Time:_____

DO NOT WRITE BELOW THIS LINE

WHITE - Chart
CANARY - PI Department

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Establish Feedback Mechanisms

- Feedback information
  - Patient Follow-up visit
  - Event Follow-up process
- Look for lessons learned hospital-wide.
- Use data to drive educational programs.
  - System Failures – Improvement Opportunities
    - Failure to Communicate
    - Failure to Recognize
    - Failure to Plan
- Share the success stories.

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Measure Effectiveness

- Key measures
  - Total Codes
  - Codes outside the ICU
  - Number of rapid response team calls
  - Mortality Rate

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Model for Improvement

- What are we trying to accomplish?
- How will we know that a change is an improvement?
- What changes can we make that will result in an improvement?

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Next step: Set up a Pilot

- Define Time Period and Place to Pilot
- Operational Considerations (Available, Accessible)
- Communication Tools (How to notify, document, data collection)
- Follow-up to Staff
- Present information – Every Patient

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Implementation

- One unit/floor at a time
- Educate staff
- Staffing – Be creative
- Team Members – “Thank you for calling – How can I help you?”
- Don’t alienate the caller
- Review current protocols, guidelines
- Follow-up processes: Patient, Staff, System

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Tips When Getting Started

- **Be tolerant of "false alarms." Every call is a call for help – may be mentoring opportunity.**
- **Communicate, communicate, communicate! Get the word out – initially and continuously.**
- **<u>Share</u> the RRT stories with medical and nursing staff.**
- **Maintain <u>continuous</u> awareness and reinforcement of RRT through hospital publications, newsletters, etc. Keep it alive!**
- **Scripting can help: "Thank you for calling, how can I help you" - Sets the stage when responding to the RRT call.**

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